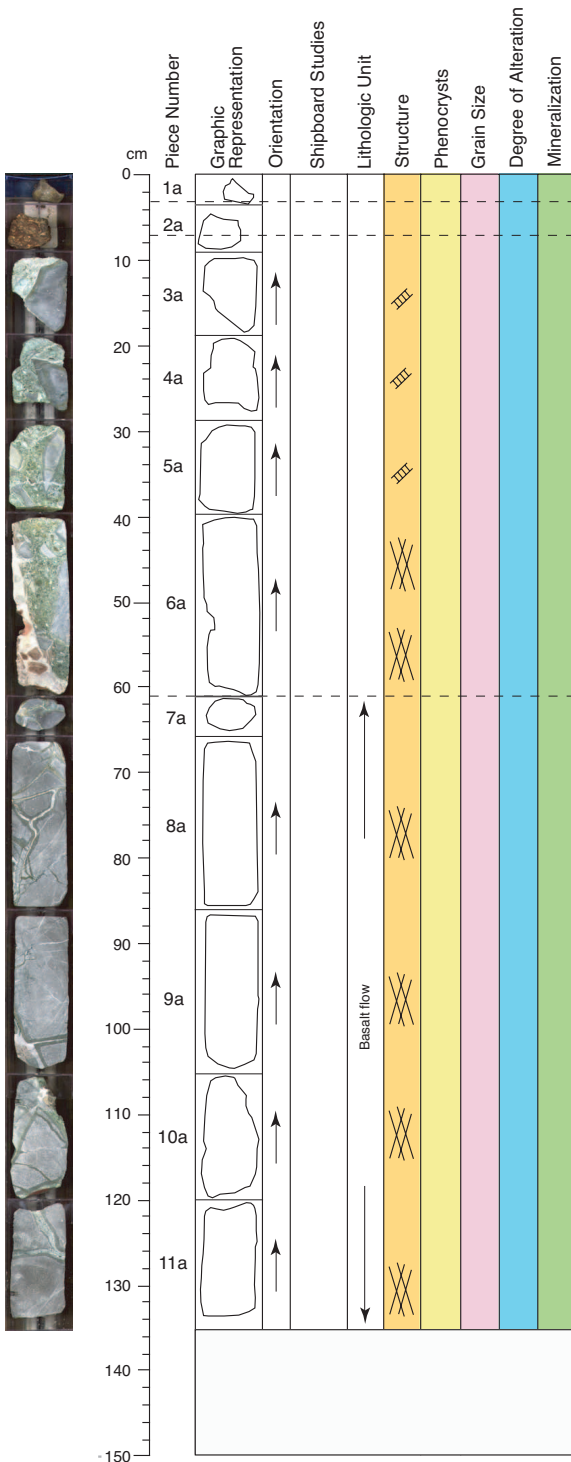


Core Photo



210-1277A-01W-1 (Section top: 0.0 mbsf)

UNIT 1, Sandstone

ROCK NAME: Sandstone with micas

PIECE: 1a

CONTACTS:

Upper: This is the top of the wash core; the upper contact was not recovered.

Lower: Lower contact was not recovered.

COLOR: Yellowish gray

GROUNDMASS:

Grain size: Coarse sandstone

UNIT 1, Ferruginous sediments

ROCK NAME: Ferruginous sediments

PIECE: 2a

CONTACTS:

Upper: Upper contact was not recovered.

Lower: Lower contact was not recovered.

COLOR: Brown

ADDITIONAL COMMENTS: Agglutinated foraminifers, no carbonate.

UNIT 1, Hyaloclastite with basalt clasts and "sedimentary" infills

ROCK NAME: Hyaloclastite breccia

PIECE: 3a - 6a

CONTACTS:

Upper: The upper contact with the overlying ferruginous sediment was not recovered.

Lower: The contact with the underlying pillow basalts flow was not recovered.

COLOR: Bluish gray with a green matrix

GROUNDMASS: Angular basalt clasts in a hyaloclastite matrix.

VEINS: A conjugate vein network is recorded throughout the section; in Piece 6a there are calcite veins with "ghost" clasts (i.e., reaction between the clasts and the matrix).

ADDITIONAL COMMENTS: There is a mixing of lithologies in this interval between sediment, basalt clasts and hyaloclastites. The angular basalt clasts show a sparry cement at the margins.

UNIT 1, Basalt flow

ROCK NAME: Basalt

PIECE: 7a - 11a

CONTACTS:

Upper: The upper contact, placed between Piece 6a and Piece 7a at 60 cm was not recovered.

Lower: The lower contact in Section 1277A-1W-2 at 74 cm was not recovered.

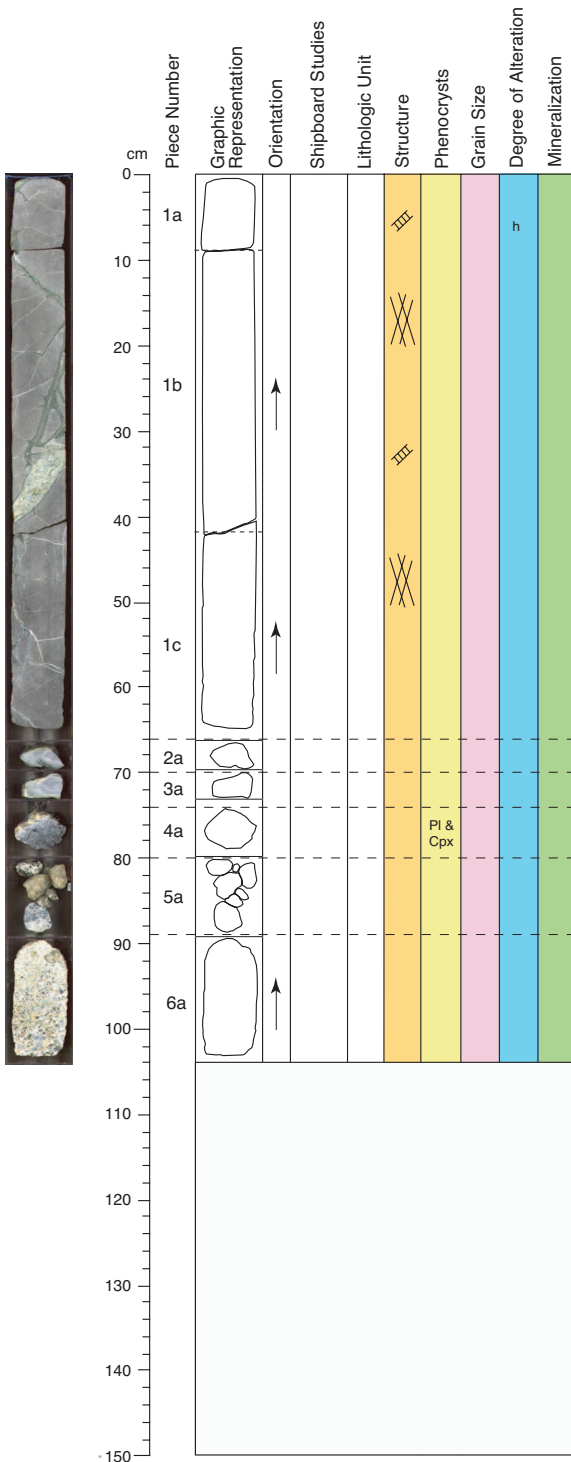
COLOR: Bluish gray

ALTERATION: Basalts show chilled margins and alteration of minerals at the margins.

VEINS: A network of veins are recorded in the basalts; these are restricted to the basalts and do not cross the sedimentary infill.

ADDITIONAL COMMENTS: Fractures recorded in this interval are seen only in the basalts and not in the sedimentary infill.

Core Photo



210-1277A-01W-2 (Section top: 1.36 mbsf)

UNIT 1, Basalt flow

ROCK NAME: Basalt

PIECE: 1a - 3a

CONTACTS:

Upper: The upper contact, placed between Piece 6a and Piece 7a, in Section 1277A-1W-1 at 60 cm was not recovered.

Lower: The lower contact at 74 cm was not recovered.

COLOR: Bluish gray

ALTERATION: Basalts show chilled margins and alteration of minerals at the margins.

VEINS: A network of calcite veins is recorded in the basalts; these are restricted to the basalts and do not cross the sedimentary infill.

ADDITIONAL COMMENTS: Fractures recorded in this interval are seen only in the basalts and not in the sedimentary infill. Between the basalts flows there are sediments containing hyaloclastites.

UNIT 1, Gabbro

ROCK NAME: Gabbro

PIECE: 4a

CONTACTS:

Upper: The contact between Pieces 3a and 4a was not recovered.

Lower: The contact with the underlying breccia was not recovered.

COLOR: Gray

PHENOCRYSTS:

Plagioclase 60% 4-5 mm

Clinopyroxene 20% 4-5 mm

GROUNDMASS:

Primary minerals: plagioclase, clinopyroxene

UNIT 1, Polymictic clastic sediments

ROCK NAME: Polymictic clastic sediments

PIECE: 5a and 6a

CONTACTS:

Upper: The upper contact with the overlying gabbro was not recovered.

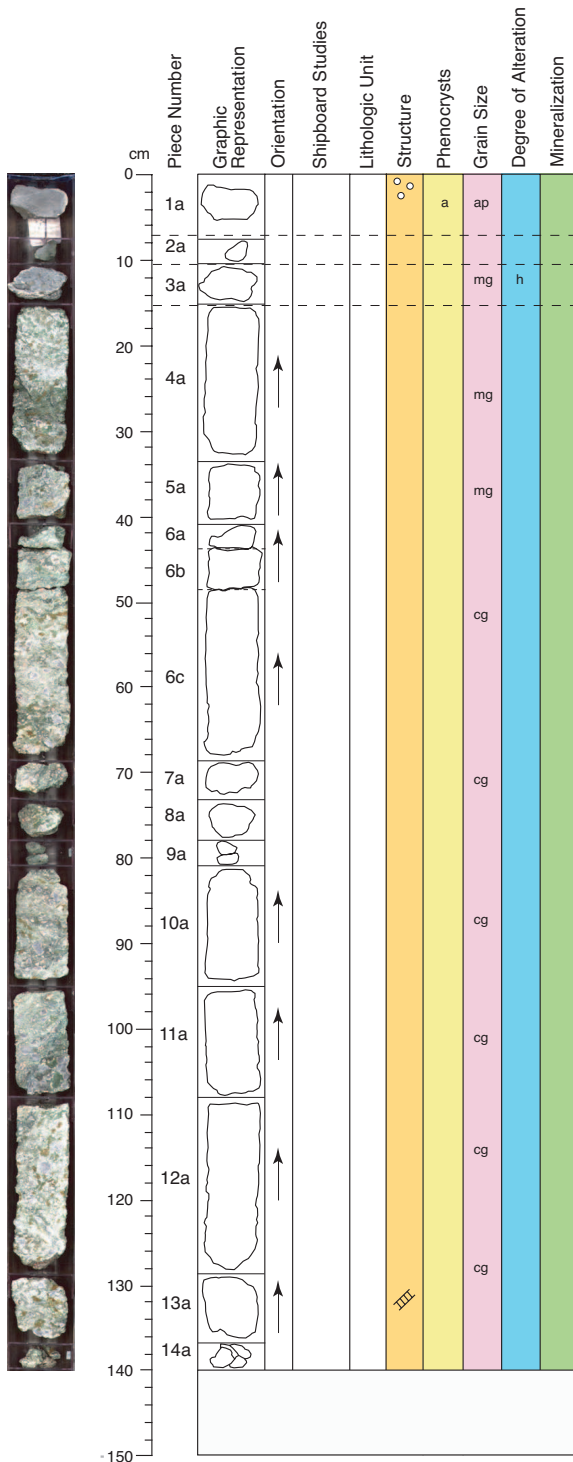
Lower: The contact with the underlying basalt flow was not recovered.

COLOR: Bluish gray with a green matrix

GROUNDMASS: Slightly rounded clasts in a sandy matrix; contains clasts of gabbro and serpentinite; the matrix is formed by sparry calcite.

ADDITIONAL COMMENTS: Mixing of igneous rocks (gabbro) and serpentinite similar to those recovered in Unit 2.

Core Photo



210-1277A-02R-1 (Section top: 103.9 mbsf)

UNIT 1, Basalt

ROCK NAME: Basalt

PIECE: 1a

CONTACTS:

Upper: This is the top of the core; the upper contact was not recovered.
 Lower: Lower contact was not recovered.

COLOR: Blueish gray

VESICLES: Sparsely vesicular present in the top of the interval.

STRUCTURE: Chilled margin contact zone at the top of the sill with rare vesicles at the top of the section.

UNIT 1, Altered basalt

ROCK NAME: Basalt

PIECE: 2a

CONTACTS:

Upper: Upper contact was not recovered.
 Lower: Lower contact was not recovered.

COLOR: Brown

ALTERATION: Basalt is highly altered

UNIT 1, Gabbro

ROCK NAME: Gabbro

PIECE: 3a

CONTACTS:

Upper: Upper contact was not recovered.
 Lower: Lower contact was not recovered.

COLOR: Brown

PHENOCRYSTS:

Plagioclase 60% >1.0 mm
 Clinopyroxene 30% >1.0 mm

GROUNDMASS:

Primary minerals: plagioclase, clinopyroxene
 Grain size: Medium grained (0.1 - 0.5 mm)

ALTERATION: Gabbro is not sharply altered

UNIT 1, Altered Gabbro

ROCK NAME: Gabbro

PIECE: 4a - 14a

CONTACTS:

Upper: The upper contact with the overlying gabbro is not recovered and may have been removed through drilling disturbance.
 Lower: The lower contact with the underlying clastic sediments in Section 1277A-2R-2 at 40 cm was not recovered.

COLOR: Green

GROUNDMASS: Plagioclase and pyroxene porphyroblasts in a chlorite-rich and strongly altered matrix.

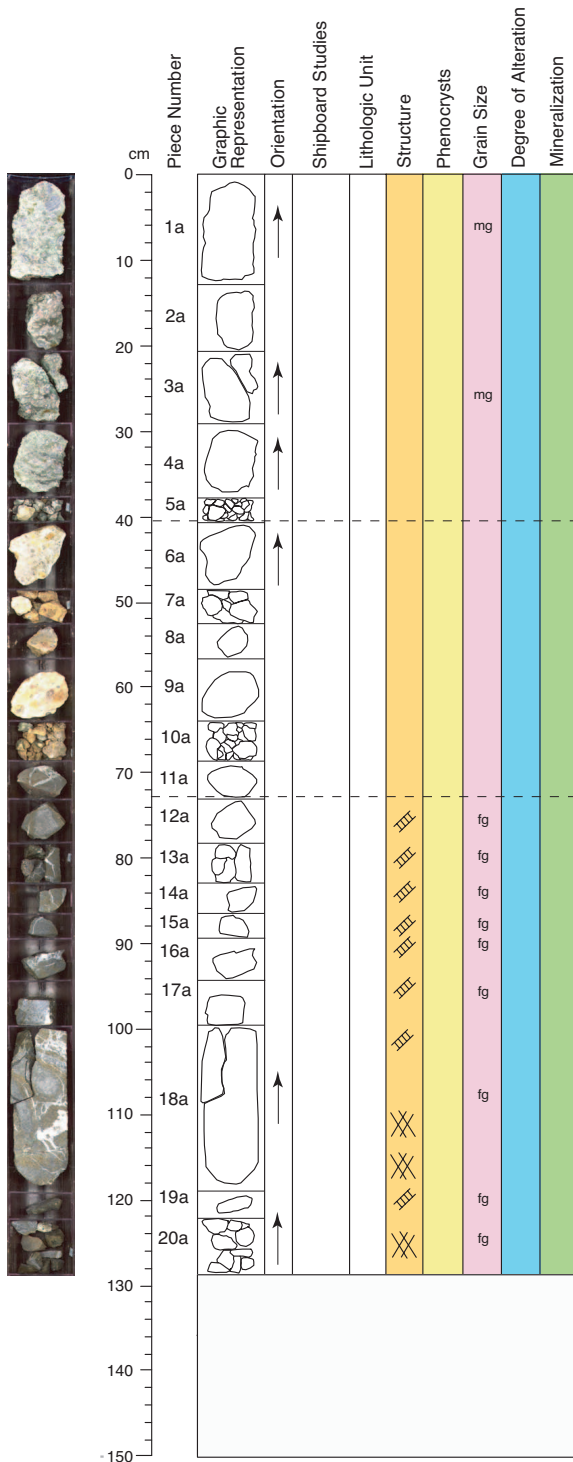
Grain size: Medium to coarse grained (0.1 - 1.0 mm) becoming more coarse grained towards the base of the interval.

VEINS: Veins are rare in the section; a small calcite filled vein is recorded in Piece 13a.

ALTERATION: There is a brittle deformation overprint on the hydrothermal mineralized alteration of the rock.

ADDITIONAL COMMENTS: The plagioclase and pyroxene minerals are strongly altered. In Piece 11a (interval 103-107 cm), brittle faulting of a clast of gabbro is observed. A weak foliation is observed in the matrix and minerals are aligned parallel to this foliation direction.

Core Photo



210-1277A-02R-2 (Section top: 105.29 mbsf)

UNIT 1, Altered Gabbro

ROCK NAME: Gabbro

PIECE: 1a - 5a

CONTACTS:

Upper: The upper contact with the overlying gabbro in Section 1277A-02R-1 at 15 cm was not recovered and may have been removed through drilling disturbance.

Lower: The lower contact with the underlying clastic sediment at 40 cm was not recovered.

COLOR: Green

GROUNDMASS: Plagioclase and pyroxene porphyroblasts in a chlorite-rich and strongly altered matrix.

Grain size: Medium to coarse grained (0.1 - 1.0 mm) becoming coarser grained towards the base of the interval.

ALTERATION: There is a brittle deformation overprint on the hydrothermal alteration of the rock.

ADDITIONAL COMMENTS: The plagioclase and pyroxene minerals show alteration minerals and the crystals are rounded. A weak foliation is observed in the matrix and the minerals are aligned parallel to this foliation direction.

UNIT 1, Polymict clastic sediments

ROCK NAME: Polymict clastic sediments

PIECE: 6a - 11a

CONTACTS:

Upper: Upper contact with the overlying altered gabbro was not recovered.

Lower: Lower contact was not recovered.

COLOR: Orange

ALTERATION: Calcite recrystallization is patchy in the matrix and the clasts are rounded.

UNIT 1, Basalt flow

ROCK NAME: Basalt

PIECE: 11a - 20a

CONTACTS:

Upper: Upper contact was not recovered.

Lower: Lower contact was not recovered.

COLOR: Greenish gray

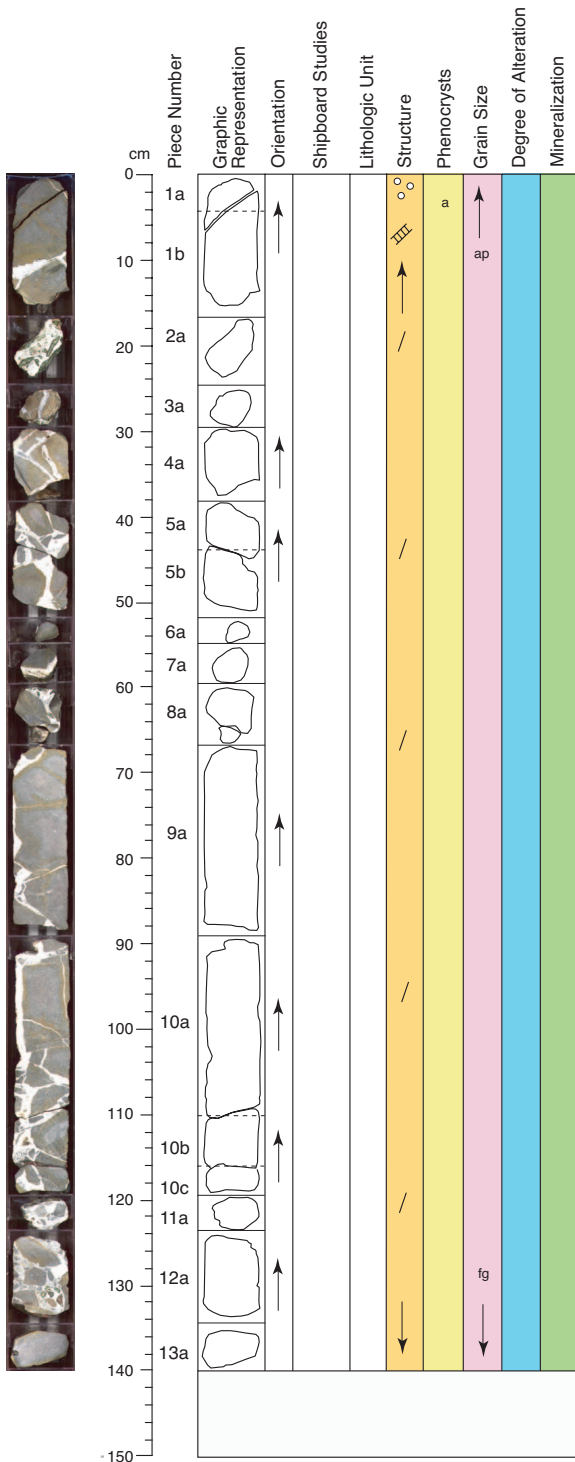
GROUNDMASS:

Grain size: Aphyric to very fine grained (<0.5 mm)

VEINS: The lower interval records an extensive network of calcite veins.

ALTERATION: Around the veins hydrothermal alteration of the minerals is noted due to the circulation of fluids through the rock.

Core Photo



210-1277A-03R-1 (Section top: 113.6 mbsf)

UNIT 1, Basalt flow

ROCK NAME: Basalt

PIECE: 1a - 13a

CONTACTS:

Upper: The upper contact is not recovered and may have been removed through drilling disturbance.

Lower: The lower contact with the underlying sediments is seen in Section 1277A-3R-4 at 59 cm.

GROUNDMASS:

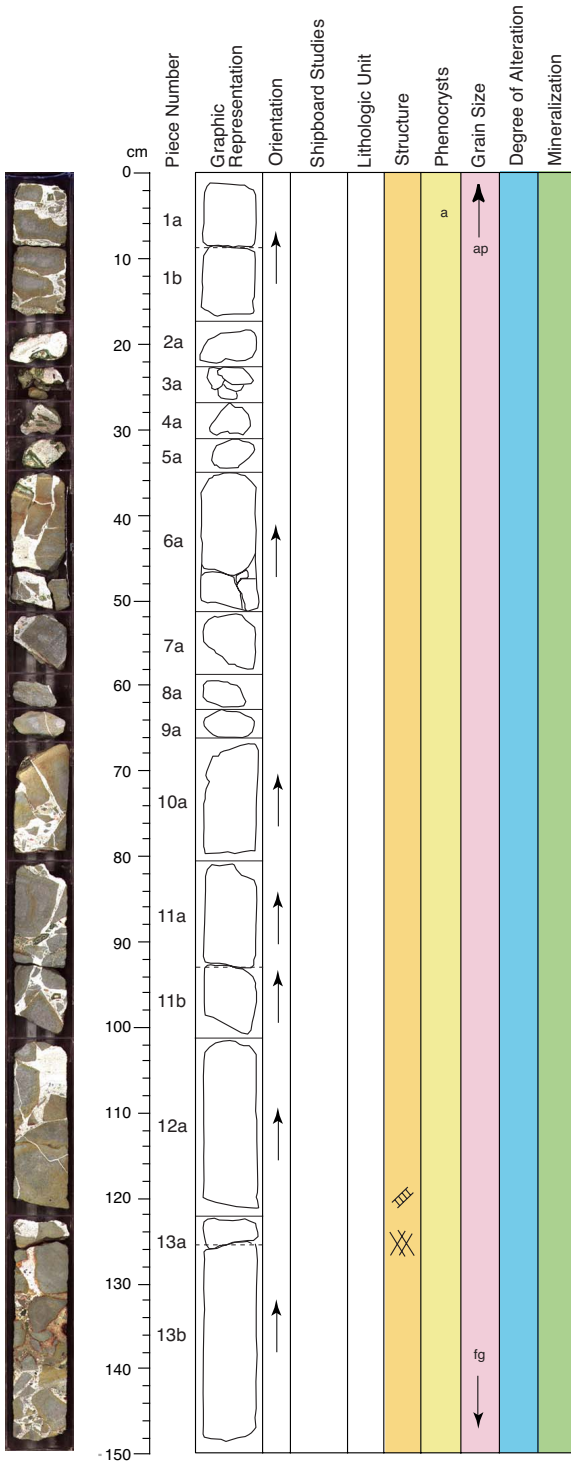
Grain size: Aphyric to fine grained (<0.1 - 0.5 mm) with crystal size increasing towards the base of the section.

VESICLES: In Piece 1a, vesicles associated with the chilled margins are mineralized with calcite.

VEINS: A calcite mineralized vein is recorded in Piece 1b.

ADDITIONAL COMMENTS: This section is comprised of basalts, hyaloclastite and breccia. The breccia contains clasts (some are "jigsaw" clasts) of basalt and occasional hyaloclastite in a sparry calcite matrix.

Core Photo



210-1277A-03R-2 (Section top: 115.01 mbsf)

UNIT 1, Basalt

ROCK NAME: Basalt

PIECE: 1a - 13b

CONTACTS:

Upper: The upper contact at the top of Section 1277A-3R-1 was not recovered and may have been removed through drilling disturbance.

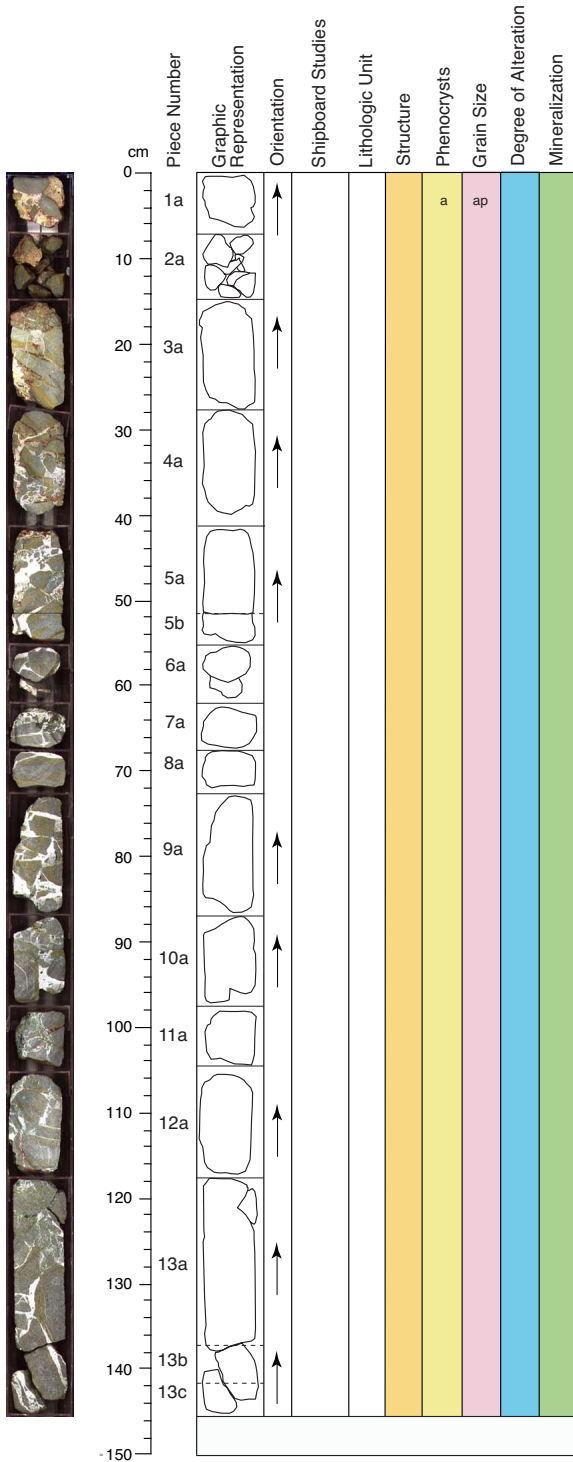
Lower: The lower contact with the underlying sediments is seen in Section 1277A-3R-4 at 59 cm.

GROUNDMASS:

Grain size: Aphyric to fine grained (<0.1 - 0.5 mm) with crystal size increasing towards the base of the section.

ADDITIONAL COMMENTS: This section is comprised of basalt, hyaloclastite, and breccia. The breccia contains clasts (some are "jigsaw" clasts) of basalt and occasional hyaloclastite with a sparry calcite cement.

Core Photo



210-1277A-03R-3 (Section top: 116.51 mbsf)

UNIT 1, Basalt

ROCK NAME: Basalt

PIECE: 1a - 13c

CONTACTS:

Upper: The upper contact at the top of Section 1277A-3R-1 was not recovered and may have been removed through drilling disturbance.

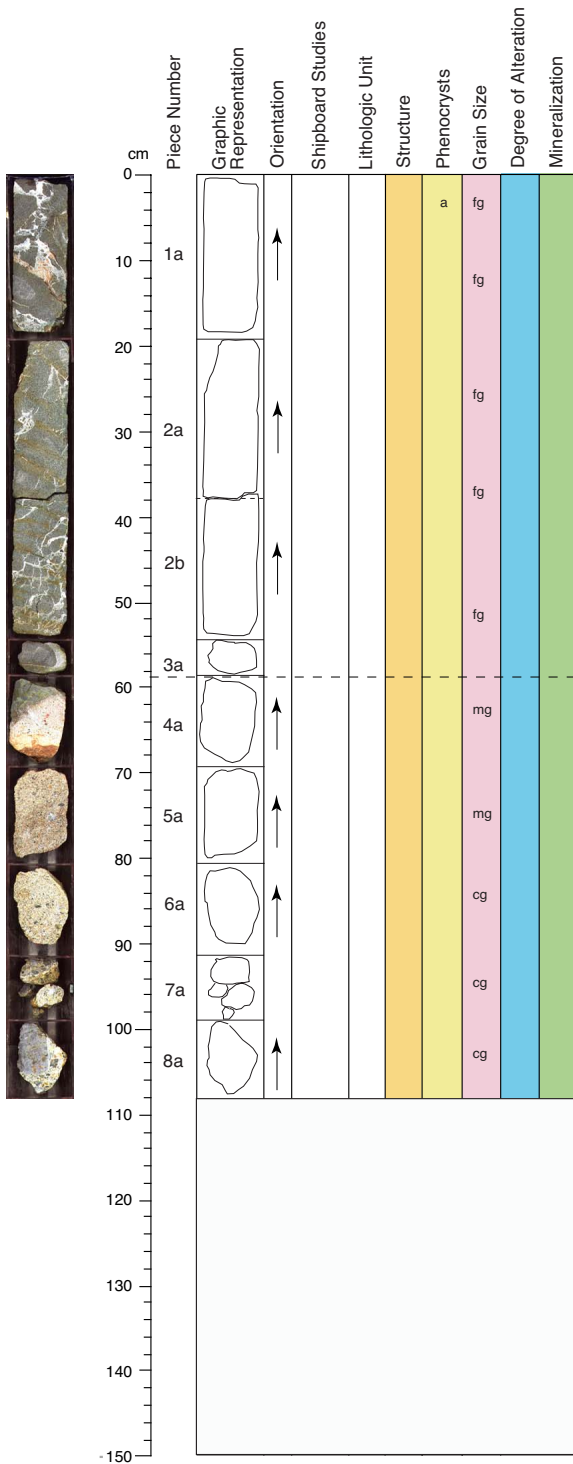
Lower: The lower contact with the underlying sediments is seen in Section 1277A-3R-4 at 59 cm.

GROUNDMASS:

Grain size: Aphyric to fine grained (<0.1 - 0.5 mm) with crystal size increasing towards the base of the section.

ADDITIONAL COMMENTS: This section is comprised of clasts of basalts, hyaloclastite and breccia in a sparry calcite matrix. Locally, the groundmass contains a red claystone.

Core Photo



210-1277A-03R-4 (Section top: 117.96 mbsf)

UNIT 1, Basalt

ROCK NAME: Basalt

PIECE: 1a - 3a

CONTACTS:

Upper: The upper contact at the top of Section 1277A-3R-1 was not recovered and may have been removed through drilling disturbance.
 Lower: A sharp primary contact with the underlying sediments is seen at 59 cm.

GROUNDMASS:

Grain size: Aphyric to fine grained basalt (<0.1 - 0.5 mm) with crystal size increasing towards the base of the section.

ADDITIONAL COMMENTS: This section is comprised of clasts of basalts, hyaloclastite and breccia in a sparry calcite matrix. Locally, the groundmass contains a red claystone.

UNIT 1, Polymictic clastic sediments

ROCK NAME: Polymictic clastic sediments

PIECE: 3a - 8a

CONTACTS:

Upper: A sharp primary contact with the overlying basalt flow is seen at 59 cm.

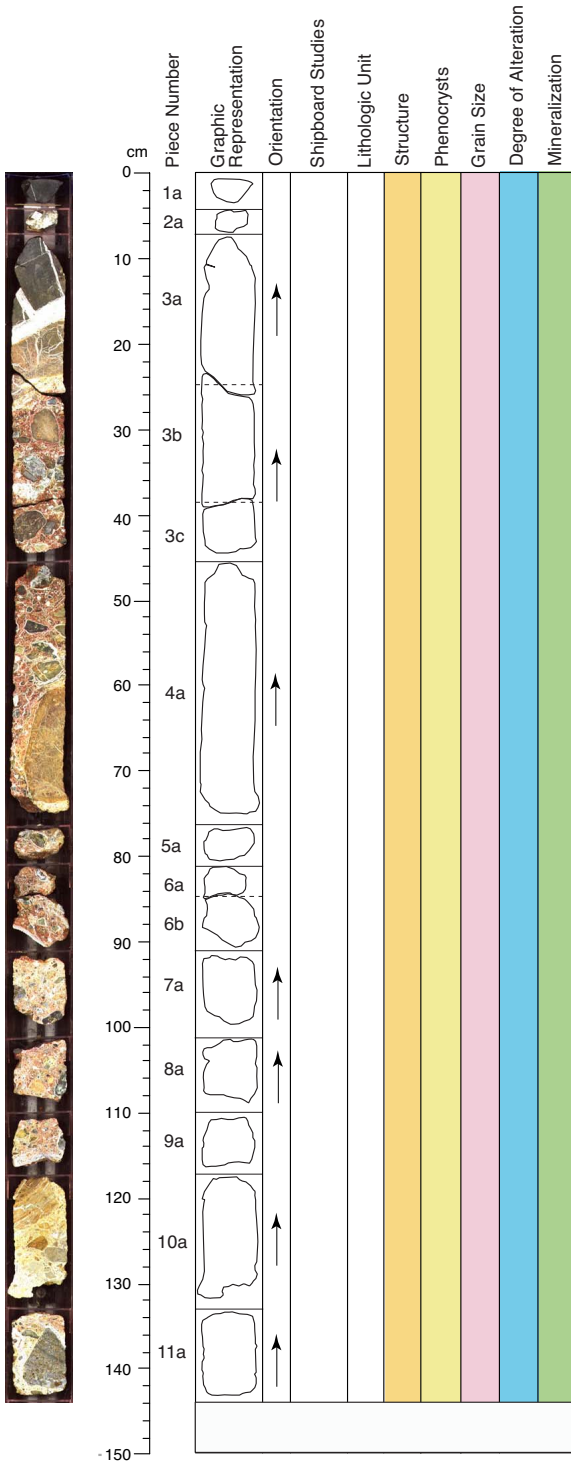
Lower: Lower contact was not recovered.

GROUNDMASS: Clasts of serpentinite, gabbro and basalt in a graded sediment matrix. Many of the clasts are rounded.

Grain size: Pebble to sand size conglomerate (>1.0 mm) with crystal size increasing towards the base of the section.

ALTERATION: Calcite recrystallization is patchy in the matrix and the clasts are rounded.

Core Photo



210-1277A-04R-1 (Section top: 123.0 mbsf)

UNIT 1, Mass flow unit

ROCK NAME: Mass flow deposits

PIECE: 1a - 11a

CONTACTS:

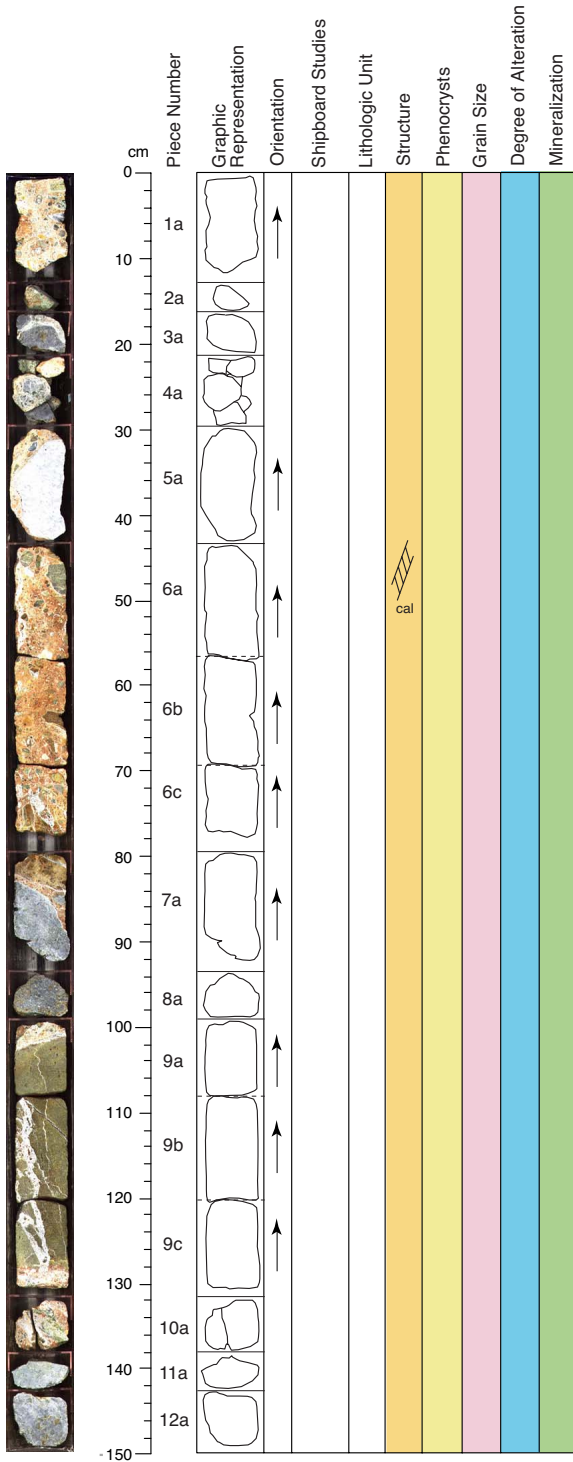
Upper: The upper contact was not recovered.

Lower: The lower contact was not recovered; this sequence continues to the base of the core in Section 1277A-4R-3.

GROUNDMASS: Clasts of serpentinized mantle (with spinel foliations) and gabbro in a clay-rich calcareous matrix. No basalt clasts were observed.

ADDITIONAL COMMENTS: Clasts are generally rounded and clast sizes up to cobble size are observed.

Core Photo



210-1277A-04R-2 (Section top: 124.44 mbsf)

UNIT 1, Mass flow unit

ROCK NAME: Mass flow deposits

PIECE: 1a - 12a

CONTACTS:

Upper: The upper contact was not recorded.

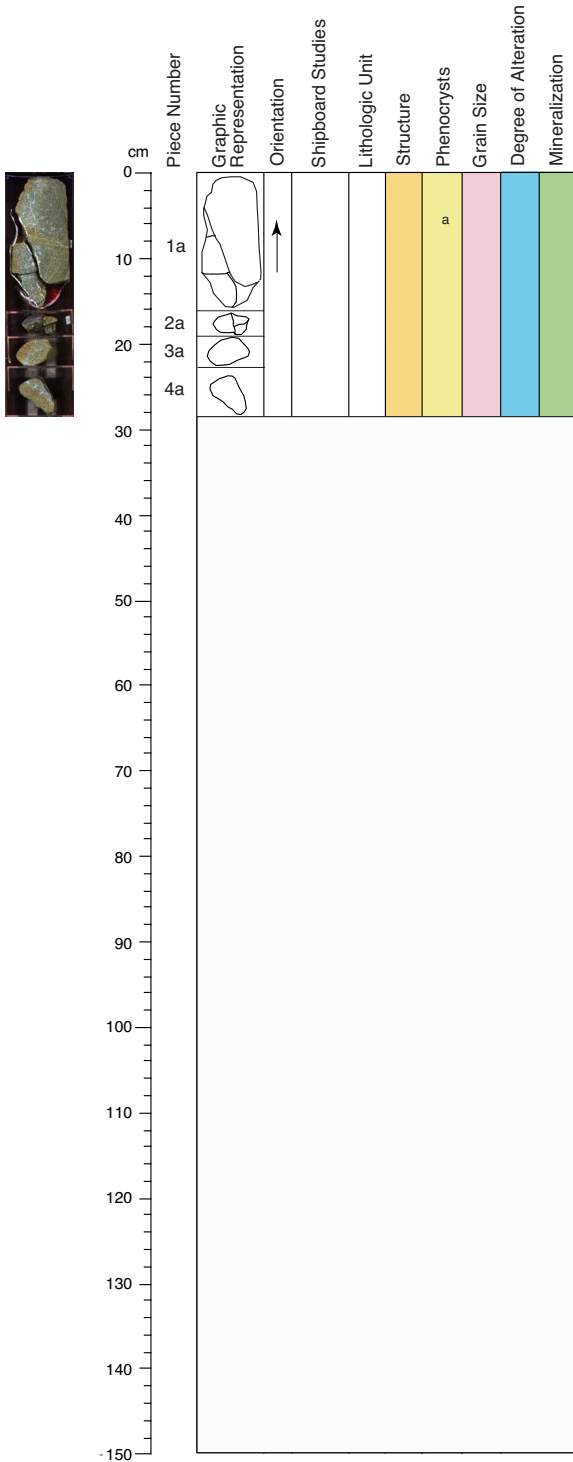
Lower: The lower contact was not recorded; this sequence continues to the base of the core in Section 1277A-4R-3.

GROUNDMASS: Clasts of serpentinized mantle (with spinel foliations) and gabbro in a clay-rich calcareous matrix. No basalt clasts were observed.

VEINS: Calcite veins are recorded in Piece 5; in Piece 9a calcite veins are observed to have a cross-cutting relationship between the clast and the matrix indicating that veining post-dates deposition.

ADDITIONAL COMMENTS: This section is comprised of a sequence of mass-flow (gravity) deposits. Clasts are generally rounded and there is a wide range in cobble size; some are up to 13 cm in diameter.

Core Photo



210-1277A-04R-3 (Section top: 125.94 mbsf)

UNIT 1, Mass flow unit

ROCK NAME: Mass flow deposits

PIECE: 1a - 4a

CONTACTS:

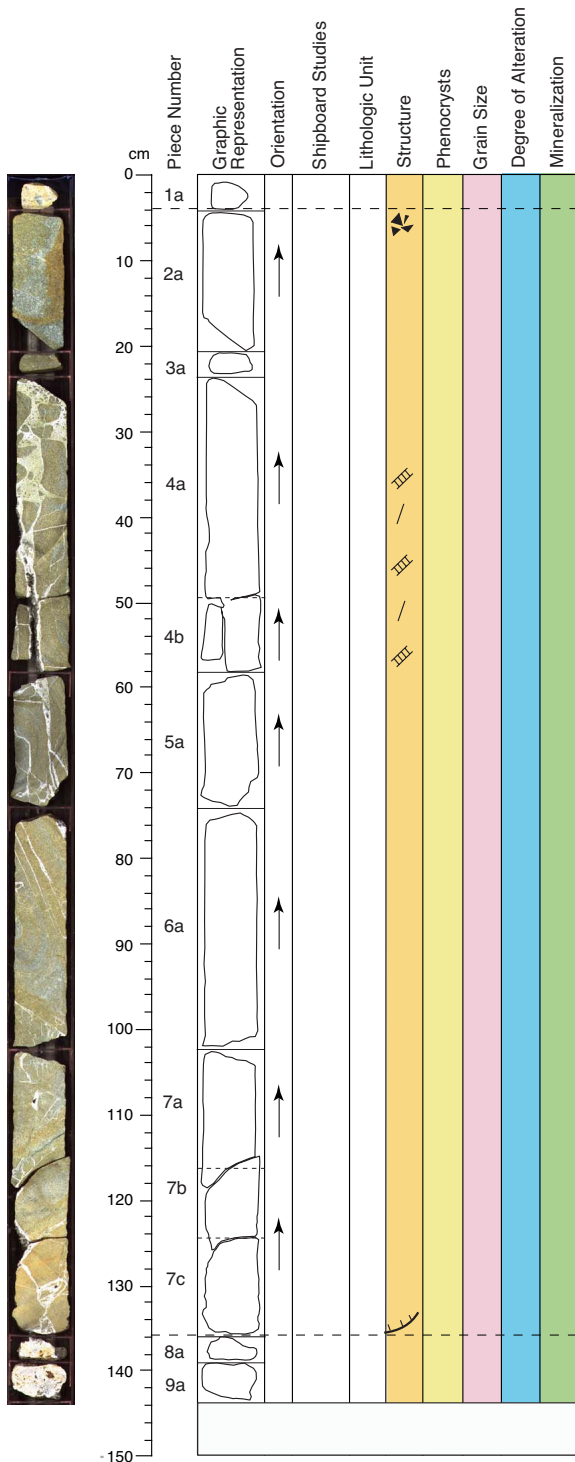
Upper: The upper contact was not recorded at the top of the core at 1277A-4R-1.

Lower: The lower contact was not recorded; this sequence continues to the base of the core in Section 1277A-4R-3.

GROUNDMASS: Clasts of serpentinized mantle (with spinel foliations) and gabbro in a clay-rich calcareous matrix. No basalt clasts were observed.

ADDITIONAL COMMENTS: This section is a continuation from the previous two sections and is comprised of a sequence of mass-flow (gravity) deposits derived from a proximal environment.

Core Photo



210-1277A-05R-1 (Section top: 132.60 mbsf)

UNIT 1, Mass flow unit
 ROCK NAME: Polymict clastic sediments
 PIECE: 1a
 CONTACTS:

Upper: The upper contact at the top of Section 1277A-5R-1 was not recovered and may have been removed through drilling disturbance.
 Lower: The lower contact with the underlying basalt is seen in Section 1277A-5R-1 at 4 cm (Piece 2a).

GROUNDMASS: Fine-grained calcareous matrix with clasts of gabbro.
 Grain size: Fine grained
 ADDITIONAL COMMENTS: The clasts are angular and up to 1 cm in size.

UNIT 1, Basalt flow
 ROCK NAME: Basalt
 PIECE: 2a - 7c
 CONTACTS:

Upper: The upper contact is between Pieces 1a and 2a at 4 cm. The top is brecciated.
 Lower: The lower contact with the breccia is at 135 cm (between Pieces 7c and 8a).

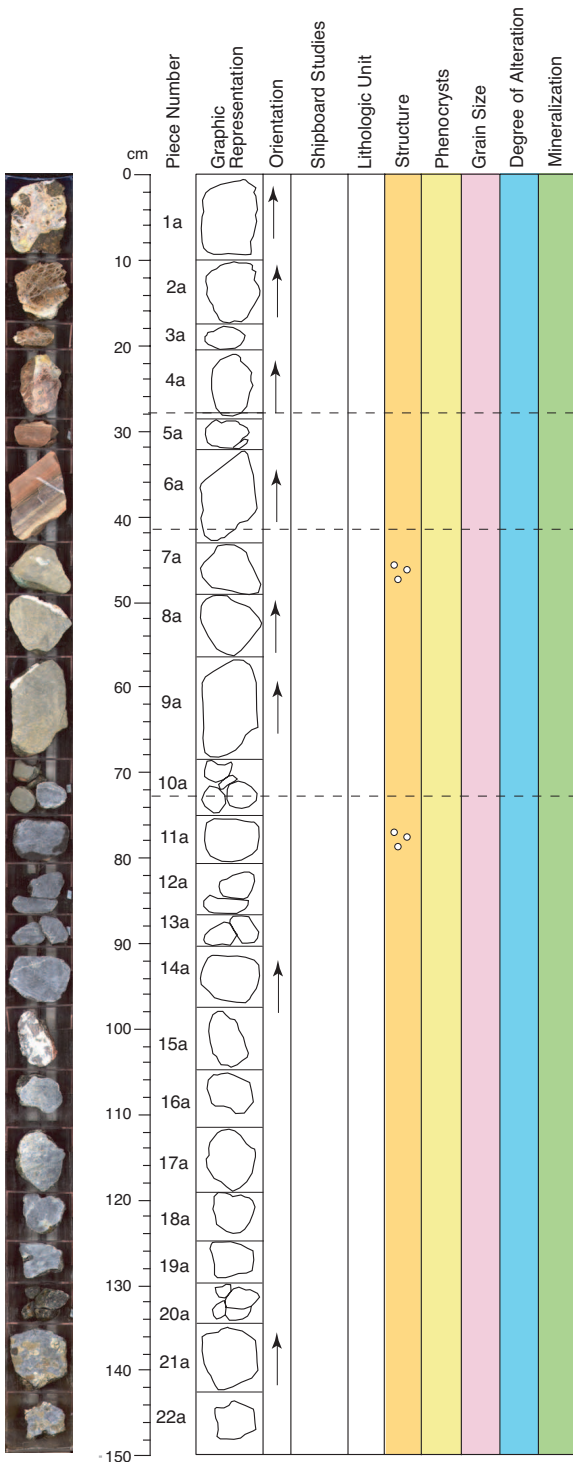
COLOR: Yellowish brown
 GROUNDMASS:
 Grain size: Aphyric to fine grained (<0.1 - 0.5 mm) with crystal size decreasing towards the base of the section.
 VEINS: Calcite veins
 ADDITIONAL COMMENTS: The top of the basalt section is brecciated and surrounded by a fine-grained yellowish calcareous groundmass. The base of the diabase exposes a chilled margin.

UNIT 1, Mass flow unit
 ROCK NAME: Polymict clastic sediments
 PIECE: 8a - 9a
 CONTACTS:

Upper: The upper contact is between Pieces 7c and 8a at 135 cm.
 Lower: The lower contact is the base of the section at 143 cm.

GROUNDMASS: Calcareous fine-grained matrix with gabbro clasts.
 Grain size: Fine grained
 ADDITIONAL COMMENTS: Clasts are subangular and composed of gabbro <1 cm in size.

Core Photo



210-1277A-05R-2 (Section top: 134.03 mbsf)

UNIT 1, Mass flow

ROCK NAME: Mass flow deposits

PIECE: 1a - 4a

CONTACTS:

Upper: The upper contact is the top of the section.

Lower: The lower contact with the underlying sediments is seen in Section 1277A-5R-2 at 28 cm.

GROUNDMASS: Calcite spar

ADDITIONAL COMMENTS: Breccia consisting of gabbro and serpentinized mantle clasts. Clast size is up to 6 cm.

UNIT 1, Polymict clastic sediments

ROCK NAME: Sandstone

PIECE: 5a - 6a

CONTACTS:

Upper: The upper contact is at 28 cm between Pieces 4a and 5a.

Lower: The lower contact is at 42 cm between Pieces 6a and 7a.

COLOR: Red

GROUNDMASS:

Grain size: Fine grained

ADDITIONAL COMMENTS: Planar laminated.

UNIT 1, Basalt

ROCK NAME: Basalt

PIECE: 7a - 10a

CONTACTS:

Upper: The upper contact is at 42 cm.

Lower: The lower contact is in a rubble zone (Piece 10a), where one of the pieces is gabbro, the other basalt.

GROUNDMASS:

Grain size: Aphanitic

UNIT 1, Gabbro

ROCK NAME: Gabbro

PIECE: 10a - 22a

CONTACTS:

Upper: The upper contact is in Piece 10a.

Lower: The lower contact is the base of the section.

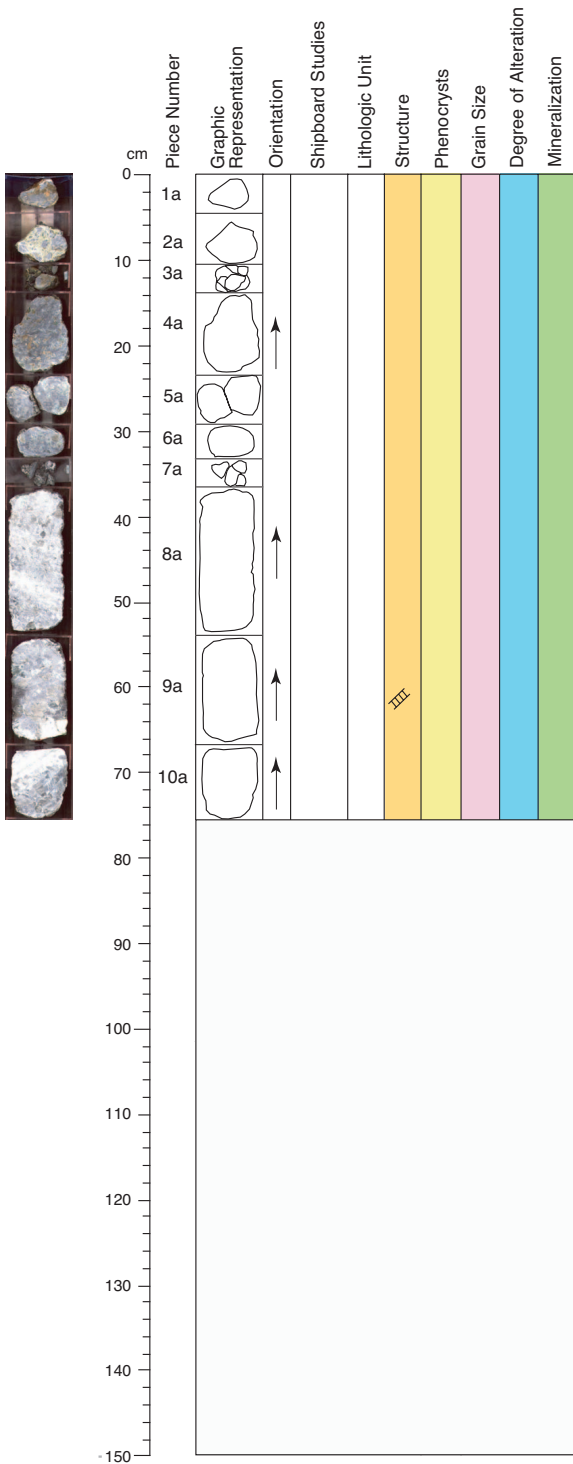
COLOR: Gray

GROUNDMASS:

Grain size: 2 mm to 1.5 cm

ADDITIONAL COMMENTS: Texture and grain size varying from medium grained to pegmatitic. Piece 15a is rich in white plagioclase and redish black pyroxene.

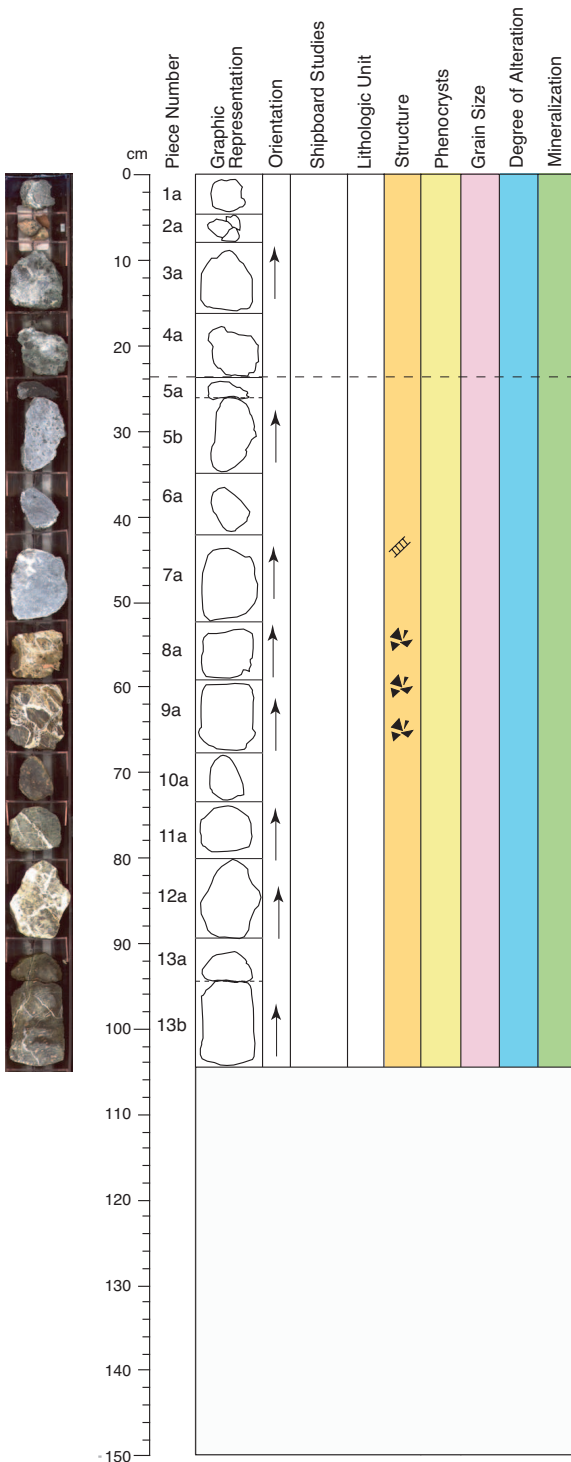
Core Photo



210-1277A-05R-3 (Section top: 135.53 mbsf)

UNIT 1, Gabbro
 ROCK NAME: Pegmatitic gabbro
 PIECE: 1a - 10a
 CONTACTS:
 Upper: The upper contact is at the section top.
 Lower: The lower contact is at the base of the section at 74 cm.
 GROUNDMASS: Plagioclase 50%, clinopyroxene <15%, orthopyroxene 20%, and olivine.
 Grain size: Phenocrysts up to 2 cm
 VEIN: Composed of plagioclase
 ADDITIONAL COMMENTS: Pyroxene rimmed by brown amphibole. Plagioclase-rich vein.

Core Photo



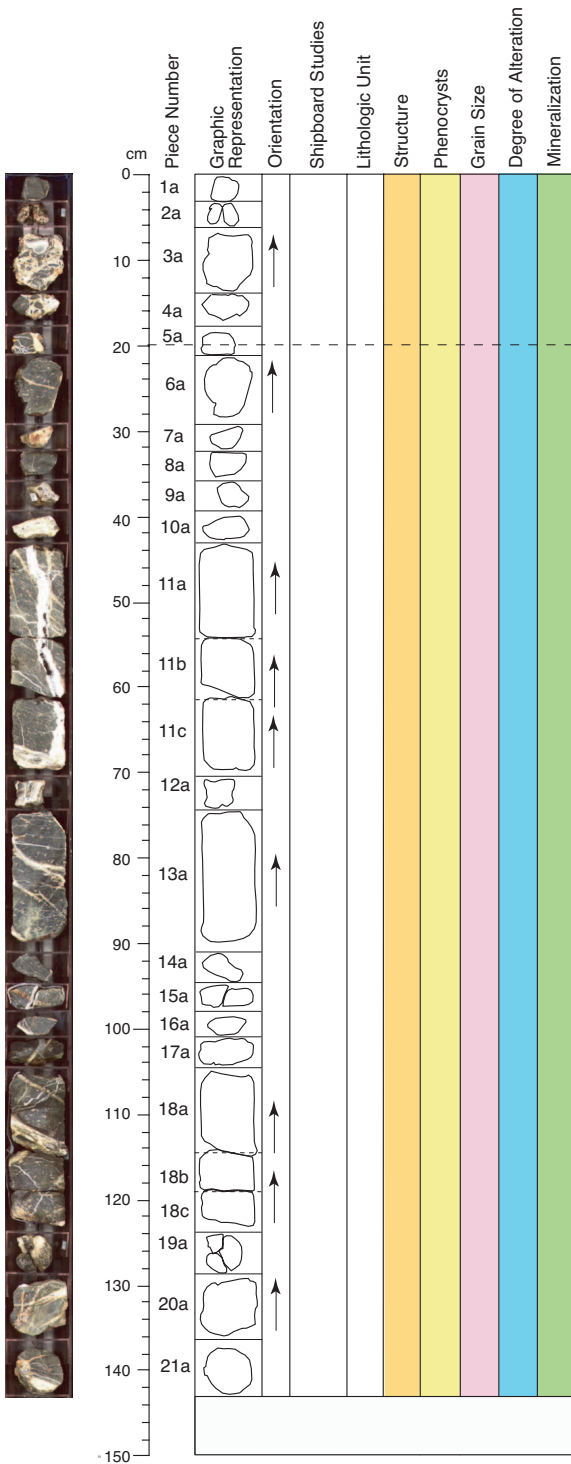
210-1277A-06R-1 (Section top: 142.10 mbsf)

UNIT 1, Deformed gabbro
 ROCK NAME: Gabbro (foliated cataclasite)
 PIECE: 1a - 4a
 CONTACTS:
 Upper: The upper contact at the top of Section 1277A-6R-1 was not recovered.
 Lower: The lower contact was not recovered.
 COLOR: Greenish gray
 ADDITIONAL COMMENTS: Gabbro cataclasite; clasts angular.

UNIT 1, Gabbro
 ROCK NAME: Gabbro
 PIECE: 5a - 7a
 CONTACTS:
 Upper: The upper contact at 23 cm.
 Lower: The lower contact is at 52 cm.
 COLOR: Brownish gray
 VEINS: At 44 cm there is a pegmatitic gabbro vein with pyroxenes up to 2 cm.
 ADDITIONAL COMMENTS: Gabbro is foliated and contains asymmetric porphyroclasts.

UNIT 1, Serpentinized peridotite
 ROCK NAME: Serpentinized peridotite (strongly cataclastic overprint)
 PIECE: 8a - 13b
 CONTACTS:
 Upper: The upper contact at 52 cm.
 Lower: The lower contact is the base of the section at 104 cm.
 COLOR: Yellowish brown
 ADDITIONAL COMMENTS: Pieces 8a and 9a are brecciated with a calcareous matrix. Contains "jigsaw" clasts. Clasts are foliated peridotite mylonites with a well-developed spinel foliation. In the foliated peridotite (Pieces 10a-13b) there are asymmetric pyroxene clasts <2 mm in size.

Core Photo



210-1277A-07R-1 (Section top:151.8 mbsf)

UNIT 1, Brecciated serpentinized peridotite

ROCK NAME: Brecciated serpentinized peridotite

PIECE: 1a - 5a

CONTACTS:

Upper: The upper contact is at the section top.

Lower: The lower contact is at 20 cm.

GROUNDMASS: Calcareous fine grained with clasts up to 3 cm.

ADDITIONAL COMMENTS: Serpentinized peridotite breccia.

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 6a - 21a

CONTACTS:

Upper: The upper contact is at 20 cm.

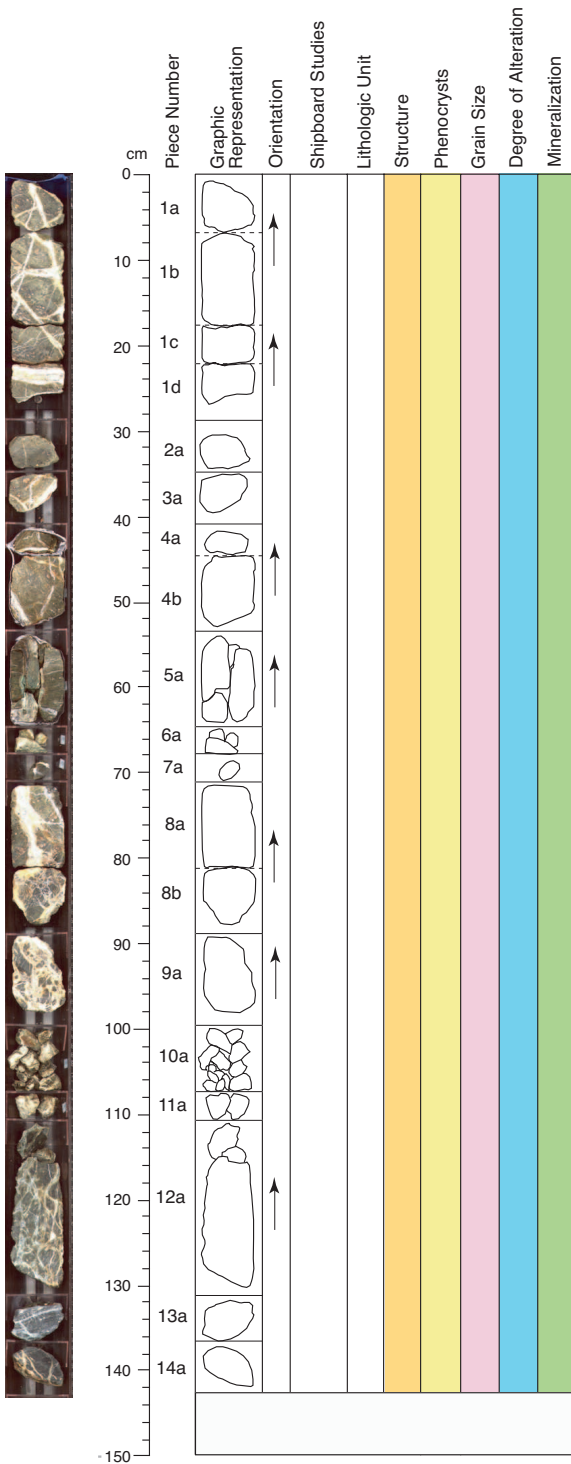
Lower: The lower contact is at the base of the section.

COLOR: Dark gray

GROUNDMASS: Pyroxene clasts <0.5 mm, transected by talc and calcite veins.

ADDITIONAL COMMENTS: Serpentinized peridotite. Strongly affected with veins throughout the section.

Core Photo



210-1277A-07R-2 (Section top: 153.23 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 14a

CONTACTS:

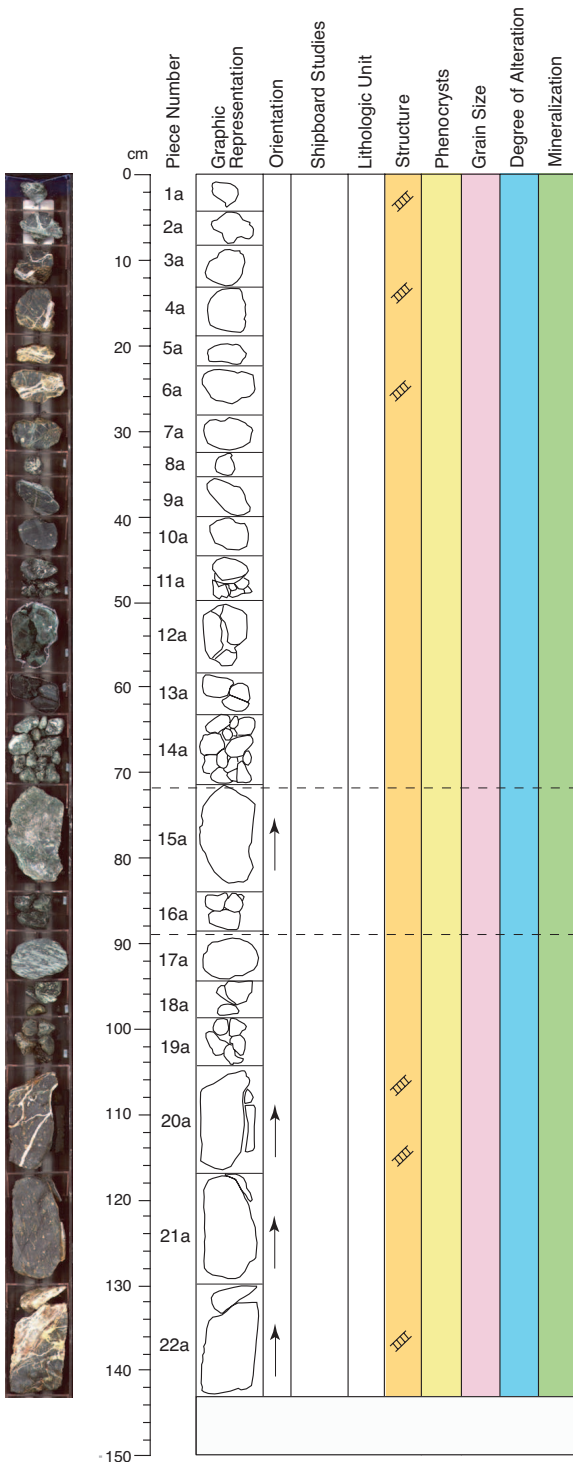
Upper: The serpentinized peridotite continues from Section 7R-1.

Lower: The lower contact is at the section base.

GROUNDMASS: Fine grained aphanitic matrix; pyroxene porphyroclasts <0.5. Spinels <2 mm aligned within a foliation parallel to the plagioclase.

ADDITIONAL COMMENTS: Veins (polyphase network) of calcite and talc overprint very homogeneous foliated porphyroclastic serpentinized peridotite.

Core Photo



210-1277A-08R-1 (Section top: 161.5 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite (strongly brecciated)

PIECE: 1a - 14a

CONTACTS:

Upper: The serpentinized peridotite continues from Section 7R-2.

Lower: The lower contact is at 72 cm between Pieces 14a and 15a.

GROUNDMASS: Fine grained matrix. Pyroxene porphyroclasts, up to 2 cm

VEINS: Calcite veins occur between 1-27 cm.

ADDITIONAL COMMENTS: Veins (polyphase network) of calcite and talc overprints the rock. The peridotite shows elongate orthopyroxenes and an intense foliation.

UNIT 1, Gabbro

ROCK NAME: Gabbro (strongly deformed)

PIECE: 15a - 16a

CONTACTS:

Upper: The contact to the upper peridotite is at 72 cm.

Lower: The lower contact is at 89 cm between Pieces 16a and 17a.

ADDITIONAL COMMENTS: Strongly altered and deformed gabbro.

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite (preserving a high-temperature foliation)

PIECE: 17a - 22a

CONTACTS:

Upper: The contact to the upper gabbro is at 89 cm.

Lower: The lower contact is at the base of the section but the serpentinized peridotite mylonite continues in Section 8R-2.

VEINS: 108-119 cm calcite veins; in Piece 22a talc veins occur.

ADDITIONAL COMMENTS: Pyroxenes are elongated and up to 2 cm long.

Core Photo



210-1277A-08R-2 (Section top: 162.95 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 9a

CONTACTS:

Upper: The upper contact is at the section top; however serpentinized peridotite is found in base of Section 8R-1.

Lower: The lower contact is at the base of the section at 99 cm.

COLOR: Dark green to brown

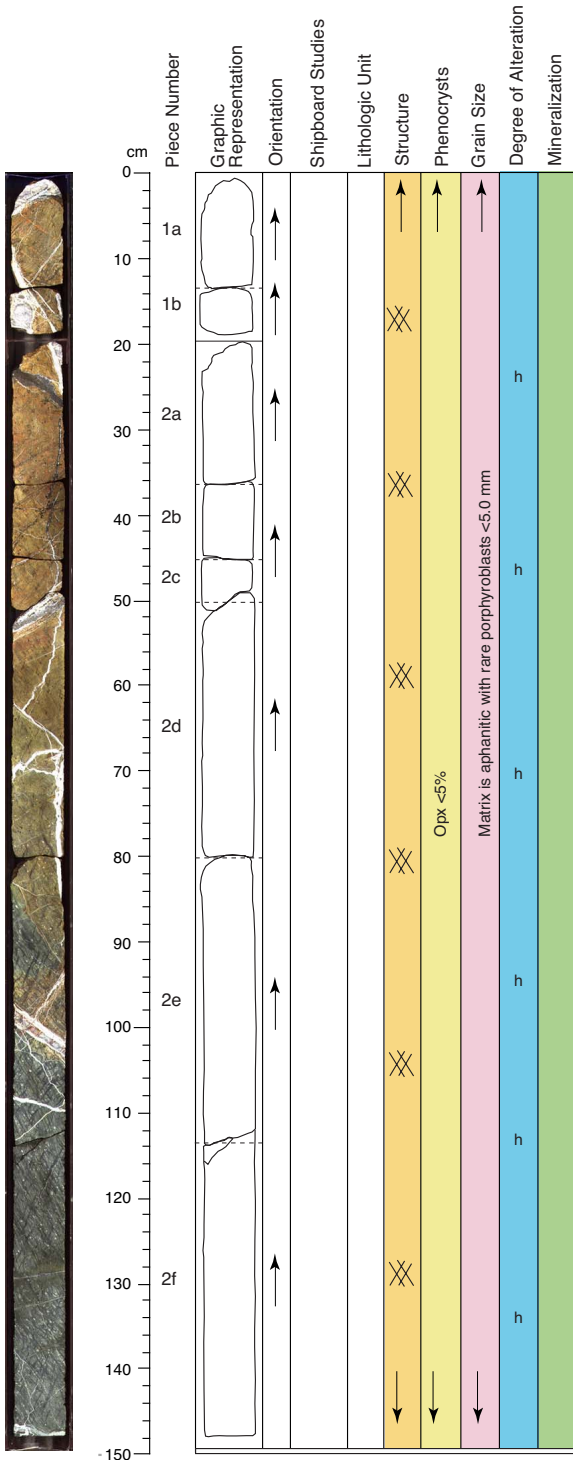
GROUNDMASS: Porphyroclastic with elongate orthopyroxens with aspect ratio of 4/1.

VEIN: Set of veins which are parallel and dip 30°. Later veins are subvertical.

Magnetite veins are well developed.

ADDITIONAL COMMENTS: High-temperature foliation preserved in Pieces 2a and 2b; the lower part is strongly brecciated.

Core Photo



210-1277A-09R-1 (Section top: 170.7 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Foliated serpentinized peridotite

PIECE: 1a - 2f

CONTACTS:

Upper: The upper contact with the overlying lithology was not recorded in this core.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Yellowish brown in Pieces 1a to 2d and greenish gray in Pieces 2e and 2f

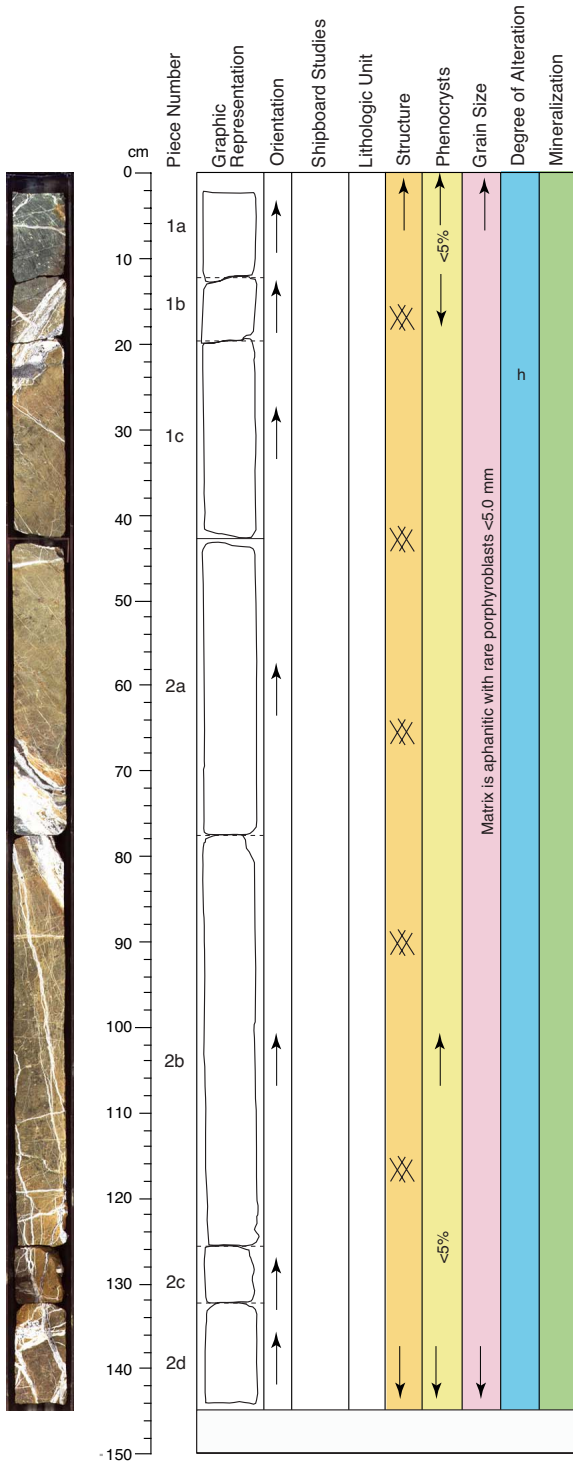
GROUNDMASS: Peridotite is composed of an aphanitic groundmass of serpentinized olivine. Pyroxenes are rare (<5%), medium grained (<5.0 mm), and form porphyroclasts; only orthopyroxene is observed in the core. Spinel crystals are small and show a light gray corona.

VEIN: There is a network of magmatic veins and calcite veins developed throughout the section.

ALTERATION: Completely serpentinized.

ADDITIONAL COMMENTS: This is a foliated unit; massive in the lower interval (from 90 cm) of serpentinized peridotite. The main structure is a strong foliation in the lower part of the section that is interpreted as a mylonitic fabric (i.e., crystal-plastic recrystallization of olivine with porphyroblasts of pyroxene).

Core Photo



210-1277A-09R-2 (Section top: 172.2 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 2d

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Yellowish brown

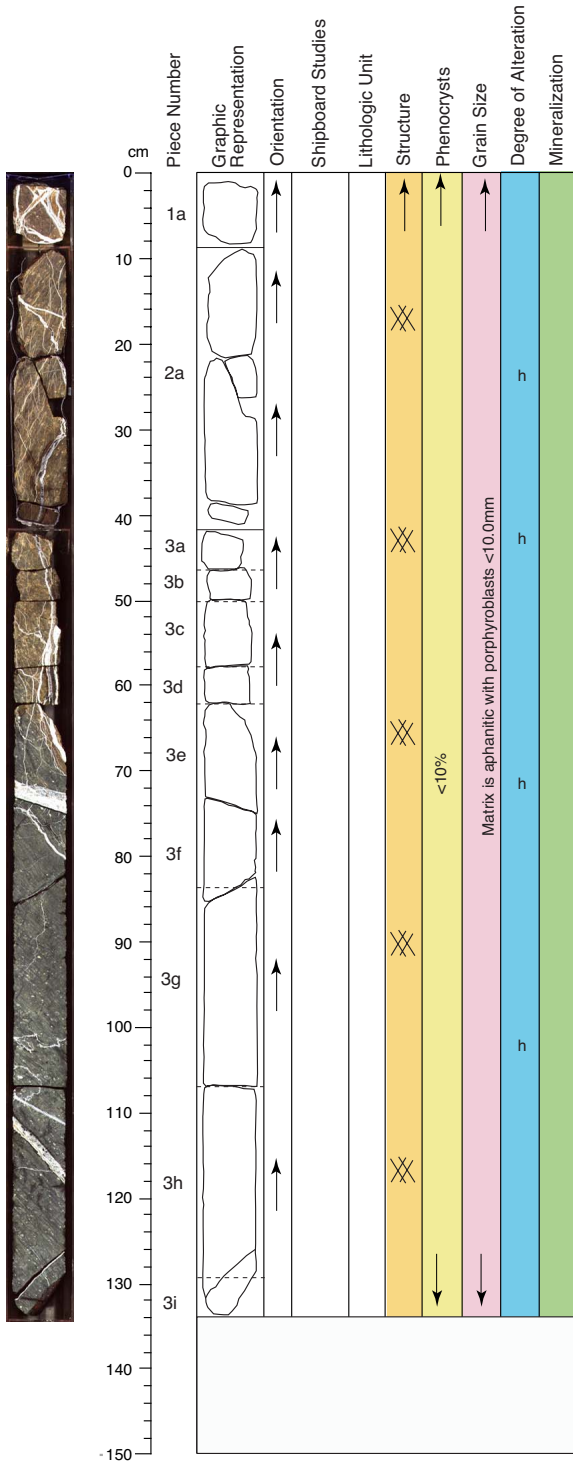
GROUNDMASS: Pyroxenes are not observable with the naked eye. Spinel crystals are <math>< 1\text{ mm}</math> and aligned in a spinel foliation.

VEIN: There is a network of magmatic and calcite veins filled by calcite. Some of the veins are composite.

ALTERATION: Serpentinization is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. It preserves a strong foliation throughout the core that is interpreted as a mylonitic foliation (i.e., crystal-plastic recrystallization of olivine with porphyroblasts of pyroxene).

Core Photo



210-1277A-09R-3 (Section top: 173.67 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 3i

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

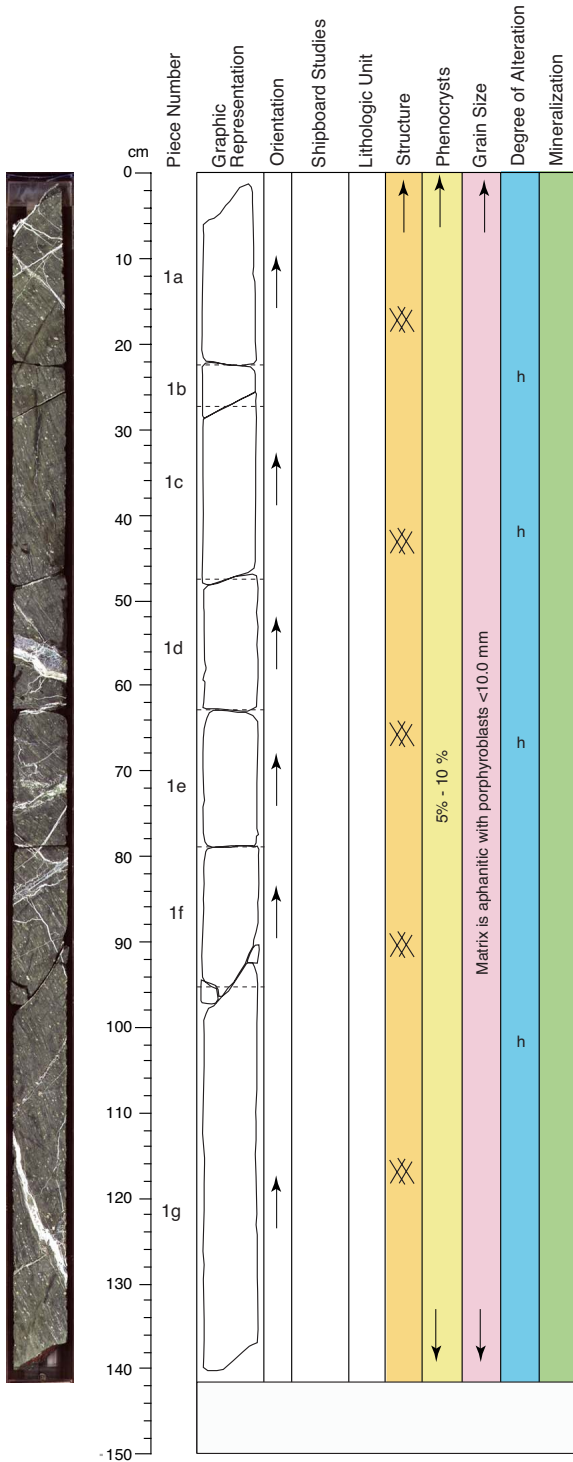
COLOR: Yellowish brown in the upper section to greenish gray at the base
 GROUNDMASS: 5%-10% pyroxene observed in this section. Accicular to vermicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of polyphase mineralized veins recorded in this section; most are mineralized with calcite. Some of the veins are composite.

ALTERATION: The section has been serpentinized.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. Foliations are more intense in the lower part of the section.

Core Photo



210-1277A-09R-4 (Section top: 175.01 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 1g

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Greenish gray

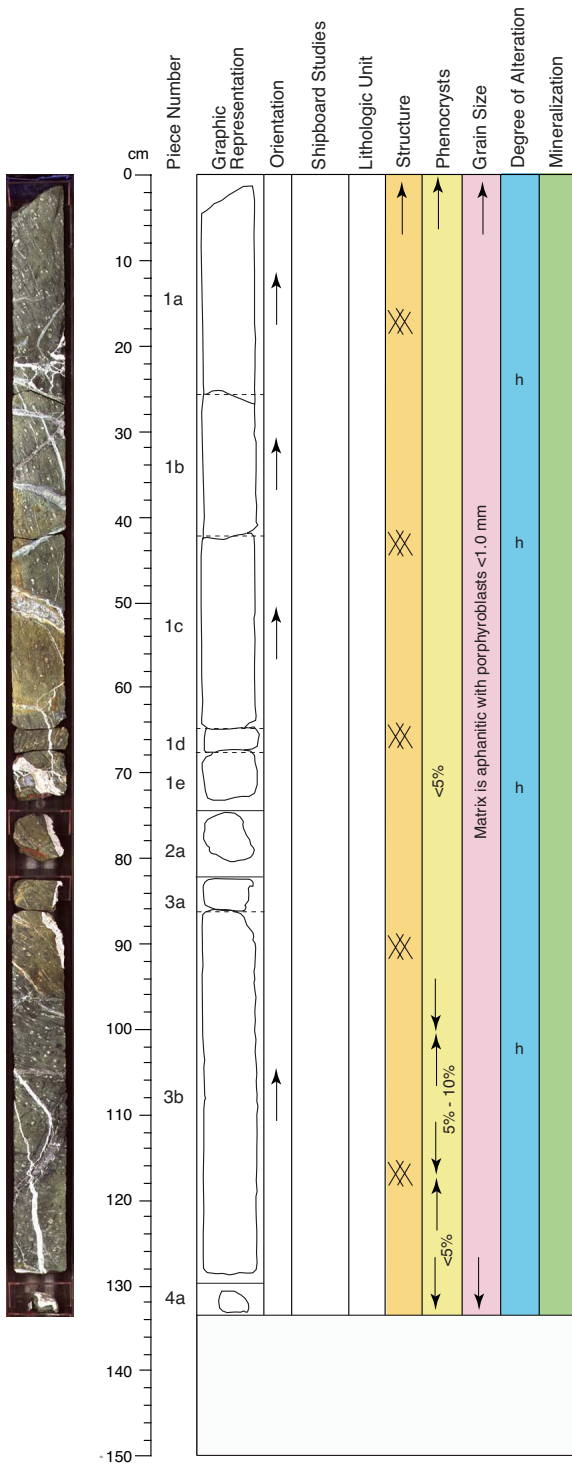
GROUNDMASS: 5%-10% pyroxene observed in this section. Accicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of polyphase mineralized veins recorded in this section; most are mineralized with calcite. Some of the veins are composite. Magmatic veins occur as well.

ALTERATION: Serpentinization is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. This is a foliated unit, with more intense foliations in the lower section.

Core Photo



210-1277A-09R-5 (Section top: 176.42 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite (foliated and veined)

PIECE: 1a - 4a

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

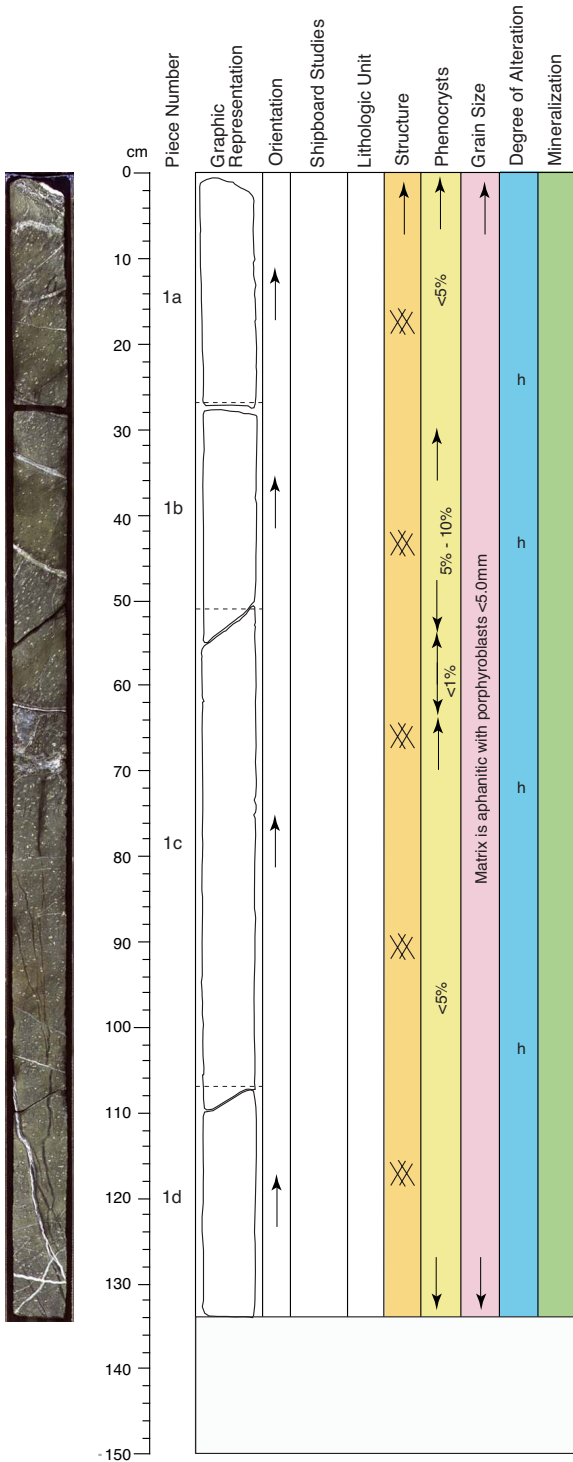
COLOR: Greenish gray with yellowish gray interval from 40 - 100 cm
 GROUNDMASS: 5%-10% pyroxene in this section. Rare acicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of polyphase mineralized veins recorded in this section; most are mineralized with calcite. Some of the veins are composite. Magmatic veins occur as well.

ALTERATION: Serpentinization is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. The foliation changes in intensity across the section.

Core Photo



210-1277A-09R-6 (Section top: 177.72 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite (foliated)

PIECE: 1a - 1d

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Greenish gray

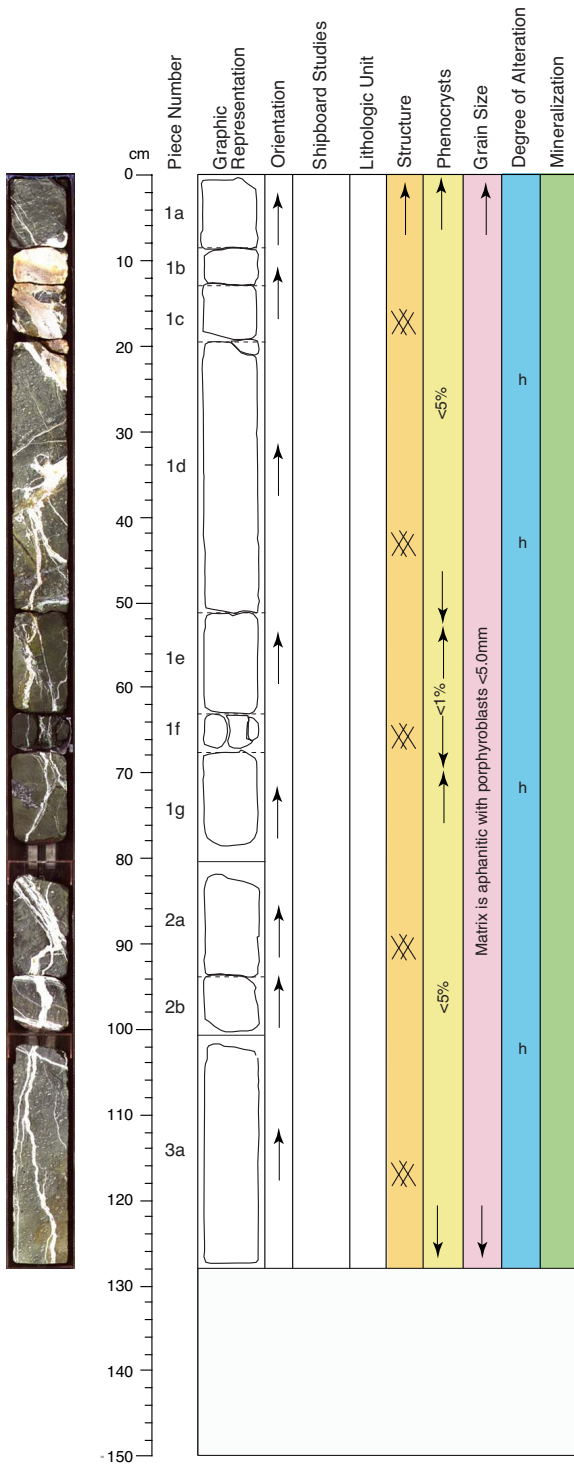
GROUNDMASS: The percentage of observed pyroxene is variable in this section. Accicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of polyphase mineralized veins recorded in this section; most are mineralized with calcite. Some of the veins are composite.

ALTERATION: Serpentinization in this section is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. Intensity of foliation varies across the section.

Core Photo



210-1277A-09R-7 (Section top: 179.08 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite (veined)

PIECE: 1a - 3a

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Greenish gray

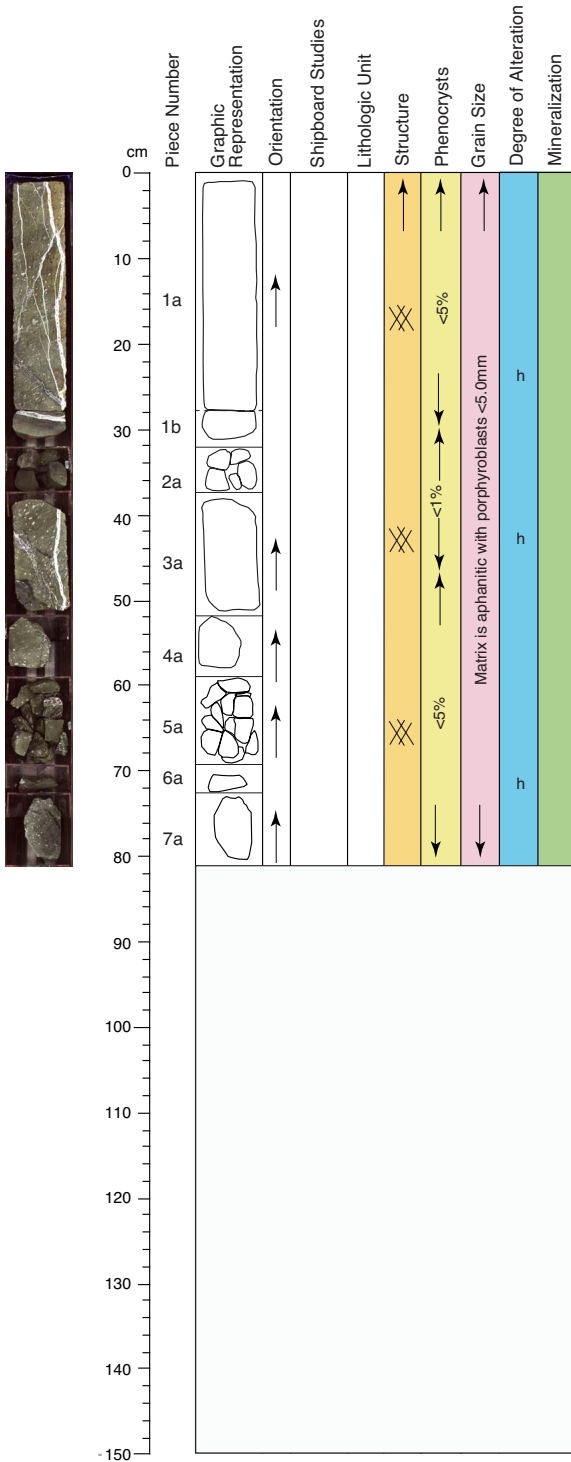
GROUNDMASS: There is <5% of pyroxene observed in this section; in Pieces 1e - 2b the rock is dunite in composition. No clinopyroxene is observed. Accicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of magmatic and polyphase calcite veins recorded in this section; most are mineralized with calcite. Some of the veins are composite and there are frequent massive veins up to 5 mm thick.

ALTERATION: Serpentinization in this section is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1. The whole section is cut by calcite veins.

Core Photo



210-1277A-09R-8 (Section top: 180.37 mbsf)

UNIT 1, Serpentinized peridotite

ROCK NAME: Serpentinized peridotite

PIECE: 1a - 7a

CONTACTS:

Upper: The upper contact of this core was not recovered.

Lower: The lower contact of this unit is at the base of Section 1277A-9R-8.

COLOR: Greenish gray

GROUNDMASS: There is <5% of pyroxene in this section. Accicular to vermicular spinel crystals are <1 mm and aligned in a spinel foliation.

VEIN: There is a network of polyphase mineralized veins recorded in this section; most are mineralized with calcite. Some of the veins are composite.

ALTERATION: Serpentinization is complete.

ADDITIONAL COMMENTS: This section is a continuation of the lithology observed in Section 1277-9R-1.

**CORE DESCRIPTIONS
PIECE LOG, SITE 1277**

Core	Section	Piece	Top	Bottom
Hole A				
1W	1	2A	3	9
1W	1	3A	9	18
1W	1	4A	19	28
1W	1	5A	29	39
1W	1	6A	40	61
1W	1	7A	61	66
1W	1	8A	66	86
1W	1	9A	87	105
1W	1	10A	106	120
1W	1	11A	120	135
1W	2	1A	0	9
1W	2	1B	9	42
1W	2	1C	42	66
1W	2	2A	67	70
1W	2	3A	70	74
1W	2	4A	74	80
1W	2	5A	81	90
1W	2	6A	90	104
2R	1	1A	0	7
2R	1	2A	7	10
2R	1	3A	10	15
2R	1	4A	15	33
2R	1	5A	33	40
2R	1	6A	40	44
2R	1	6B	44	49
2R	1	6C	49	68
2R	1	7A	68	73
2R	1	8A	73	77
2R	1	9A	77	80
2R	1	10A	80	94
2R	1	11A	95	107
2R	1	12A	108	128
2R	1	13A	128	136
2R	1	14A	136	139
2R	2	1A	0	12
2R	2	2A	12	20
2R	2	3A	20	29
2R	2	4A	29	36
2R	2	5A	37	40
2R	2	6A	40	48
2R	2	7A	48	52
2R	2	8A	52	56
2R	2	9A	56	63
2R	2	10A	63	68
2R	2	11A	68	73
2R	2	12A	73	78
2R	2	13A	78	82
2R	2	14A	82	86
2R	2	15A	86	89
2R	2	16A	89	93
2R	2	17A	92	97
2R	2	18A	99	118
2R	2	19A	118	121
2R	2	20A	121	128
3R	1	1A	0	4
3R	1	1B	4	15
3R	1	2A	17	23
3R	1	3A	24	29
3R	1	4A	29	38
3R	1	5A	38	44
3R	1	5B	44	51
3R	1	6A	52	55
3R	1	7A	55	60
3R	1	8A	60	67
3R	1	9A	67	89
3R	1	10A	89	110
3R	1	10B	110	117
3R	1	10C	117	120
3R	1	11A	120	124
3R	1	12A	124	135
3R	1	13A	135	140
3R	2	1A	0	8
3R	2	1B	8	16
3R	2	2A	17	22
3R	2	3A	22	27
3R	2	4A	27	31
3R	2	5A	31	35
3R	2	6A	35	50

Core	Section	Piece	Top	Bottom
Hole A				
3R	2	7A	51	59
3R	2	8A	59	63
3R	2	9A	63	67
3R	2	10A	67	81
3R	2	11A	81	93
3R	2	11B	66	93
3R	2	12A	101	122
3R	2	13A	123	127
3R	2	13B	127	150
3R	3	1A	0	6
3R	3	2A	7	14
3R	3	3A	14	27
3R	3	4A	27	40
3R	3	5A	41	51
3R	3	5B	51	54
3R	3	6A	54	62
3R	3	7A	62	67
3R	3	8A	67	72
3R	3	9A	72	87
3R	3	10A	87	91
3R	3	11A	97	104
3R	3	12A	101	117
3R	3	13A	118	138
3R	3	13B	144	144
3R	3	13C	140	145
3R	4	1A	0	18
3R	4	2A	19	38
3R	4	2B	38	35
3R	4	3A	55	59
3R	4	4A	59	70
3R	4	5A	70	81
3R	4	6A	81	91
3R	4	7A	91	100
3R	4	8A	100	108
4R	1	1A	1	4
4R	1	2A	4	7
4R	1	3A	7	25
4R	1	3B	25	39
4R	1	3C	39	44
4R	1	4A	45	75
4R	1	5A	76	80
4R	1	6A	81	85
4R	1	6B	85	91
4R	1	7A	91	99
4R	1	8A	101	109
4R	1	9A	110	117
4R	1	10A	117	132
4R	1	11A	133	143
4R	2	1A	0	11
4R	2	2A	13	16
4R	2	3A	16	21
4R	2	4A	21	29
4R	2	5A	30	43
4R	2	6A	43	57
4R	2	6B	57	69
4R	2	6C	69	77
4R	2	7A	80	93
4R	2	8A	94	99
4R	2	9A	99	108
4R	2	9B	108	121
4R	2	9C	121	130
4R	2	10A	132	138
4R	2	11A	138	143
4R	2	12A	143	150
4R	3	1A	0	16
4R	3	2A	16	19
4R	3	3A	19	23
4R	3	4A	23	28
5R	1	1A	1	1
5R	1	2A	4	4
5R	1	3A	21	21
5R	1	4A	24	24
5R	1	5A	49	49
5R	1	6A	59	59
5R	1	7A	58	58
5R	1	8A	74	74
5R	1	9A	102	102
5R	1	10A	114	114

**CORE DESCRIPTIONS
PIECE LOG, SITE 1277**

Core	Section	Piece	Top	Bottom
Hole A				
5R	1	11A	124	124
5R	1	12A	136	136
5R	1	13A	139	139
5R	2	1A	0	10
5R	2	2A	10	17
5R	2	3A	17	20
5R	2	4A	21	28
5R	2	5A	29	32
5R	2	6A	32	43
5R	2	7A	43	50
5R	2	8A	50	57
5R	2	9A	57	69
5R	2	10A	69	75
5R	3	1A	0	4
5R	3	2A	4	10
5R	3	3A	10	14
5R	3	4A	14	23
5R	3	5A	23	29
5R	3	6A	29	33
5R	3	7A	33	36
5R	3	8A	36	53
5R	3	9A	53	66
5R	3	10A	66	75
6R	1	1A	0	4
6R	1	2A	4	8
6R	1	3A	8	15
6R	1	4A	16	24
6R	1	5A	24	28
6R	1	5B	28	35
6R	1	6A	35	42
6R	1	7A	42	51
6R	1	8A	52	59
6R	1	9A	59	68
6R	1	10A	68	74
6R	1	11A	74	81
6R	1	12A	81	90
6R	1	13A	90	94
6R	1	13B	94	104
7R	1R	1A	0	3
7R	1R	2A	3	6
7R	1R	3A	6	13
7R	1R	4A	13	17
7R	1R	5A	17	21
7R	1R	6A	21	28
7R	1R	7A	29	32
7R	1R	8A	32	36
7R	1R	9A	36	38
7R	1R	10A	40	42
7R	1R	11A	44	54
7R	1R	11B	54	61
7R	1R	11C	61	69
7R	1R	12A	70	73
7R	1R	13A	75	90
7R	1R	14A	91	94
7R	1R	15A	95	98
7R	1R	16A	98	101
7R	1R	17A	101	104
7R	1R	18A	104	123
7R	1R	19A	124	129
7R	1R	20A	129	136
7R	1R	21A	137	141
7R	2R	1A	0	5
7R	2R	1B	5	15
7R	2R	1C	15	20
7R	2R	1D	20	23
7R	2R	2A	27	31
7R	2R	3A	33	36
7R	2R	4A	39	49
7R	2R	5A	51	60
7R	2R	6A	61	64
7R	2R	7A	65	66
7R	2R	8A	68	77
7R	2R	8B	77	83
7R	2R	9A	84	93
7R	2R	10A	95	102
7R	2R	11A	102	105
7R	2R	12A	106	123
7R	2R	13A	125	129

Core	Section	Piece	Top	Bottom	
Hole A					
7R	2R	14A	131	134	
8R	1R	1A	0	2	
8R	1R	2A	4	7	
8R	1R	3A	8	11	
8R	1R	4A	13	18	
8R	1R	5A	19	21	
8R	1R	6A	23	26	
8R	1R	7A	28	32	
8R	1R	8A	33	35	
8R	1R	9A	36	39	
8R	1R	10A	40	44	
8R	1R	11A	45	50	
8R	1R	12A	50	58	
8R	1R	13A	59	64	
8R	1R	14A	64	72	
8R	1R	15A	72	84	
8R	1R	16A	85	89	
8R	1R	17A	90	95	
8R	1R	18A	96	100	
8R	1R	19A	100	106	
8R	1R	20A	106	118	
8R	1R	21A	120	132	
8R	1R	22A	133	144	
8R	2R	0	1A	1	5
8R	2R	2A	7	41	
8R	2R	2B	41	50	
8R	2R	3A	52	59	
8R	2R	4A	60	64	
8R	2R	5A	66	74	
8R	2R	6A	75	79	
8R	2R	7A	82	87	
8R	2R	8A	89	93	
8R	2R	9A	95	100	
9R	1R	1A	0	13	
9R	1R	1B	13	18	
9R	1R	2A	20	37	
9R	1R	2B	37	45	
9R	1R	2C	45	51	
9R	1R	2D	51	80	
9R	1R	2E	80	114	
9R	1R	2F	114	148	
9R	2R	1A	17	10	
9R	2R	1B	10	18	
9R	2R	1C	18	40	
9R	2R	2A	44	77	
9R	2R	2B	77	126	
9R	2R	2C	126	133	
9R	2R	2D	42	133	145
9R	3R	1A	0	7	
9R	3R	2A	9	41	
9R	3R	3A	42	46	
9R	3R	3B	46	50	
9R	3R	3C	50	58	
9R	3R	3D	58	62	
9R	3R	3E	62	85	
9R	3R	3F	85	107	
9R	3R	3G	107	130	
9R	3R	3H	130	134	
9R	4R	1A	0	23	
9R	4R	1B	23	26	
9R	4R	1C	26	48	
9R	4R	1D	48	64	
9R	4R	1E	64	79	
9R	4R	1F	79	95	
9R	4R	1G	95	141	
9R	5R	1A	31	0	27
9R	5R	1B	27	41	
9R	5R	1C	41	65	
9R	5R	1D	60	65	68
9R	5R	1E	68	73	
9R	5R	2A	75	80	
9R	5R	3A	83	87	
9R	5R	3B	87	130	
9R	5R	4A	130	133	
9R	6R	1A	0	27	
9R	6R	1B	27	51	
9R	6R	1C	51	107	
9R	6R	1D	107	134	

**CORE DESCRIPTIONS
PIECE LOG, SITE 1277**

Core	Section	Piece	Top	Bottom
Hole A				
9R	7R	1A	0	8
9R	7R	1B	8	13
9R	7R	1C	13	20
9R	7R	1D	20	51
9R	7R	1E	51	63
9R	7R	1F	63	67
9R	7R	1G	67	78
9R	7R	2A	81	93
9R	7R	2B	93	100
9R	7R	3A	101	128
9R	8R	1A	0	27
9R	8R	1B	27	30
9R	8R	2A	33	38
9R	8R	3A	39	51
9R	8R	4A	53	58
9R	8R	5A	60	70
9R	8R	6A	70	73
9R	8R	7A	74	81